Temperature Controller Repairs in Mount Wilson in 2009 July

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BiSON Birmingham Solar-Oscillations Network

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Abstract

The temperature controllers in Mount Wilson were repaired.

1 Introduction

Steven Hale visited Mount Wilson between July 8 and July 17. The main tasks that were planned for this trip were:

- Repair Temperature Controllers.
- Replace faulty UPS.

2 Temperature Controller Repairs

The temperature controllers in Mount Wilson had failed. All channels were dead and no lights were showing on the front panel. This was hoped to be a fairly obvious fault; but the on site staff at Mount Wilson could not find a simple point of failure.

Upon inspecting the fuses on the back panel of the temperature controllers, it was discovered that the mains input fuse had blown. It was a very small one-Amp fuse, so it is rather surprising that it had not blown before now. The fuse was replaced with a five-Amp slow-blow fuse and everything began working again as it should.

3 Replace UPS

A new UPS was purchased on the previous trip [1]. It failed within three months. The unit was returned to Fry's Electronics; but since it was past their returns period, they would not do anything. It will now have to be returned to the manufacturer. Shawn Irish will contact APC and arrange for it to be repaired/replaced.

4 Alignment

As usual, an alignment scan was performed with both micrometers on the fifth-mirror. The results can be seen in Figures 1 and 2. The scan was done with the cell cold, and so the aim is to minimise the sum and thus minimise the cold-scattering. The best position was found to be when the x-micrometer was set to $+8.4$ and the y-micrometer set to -0.35.

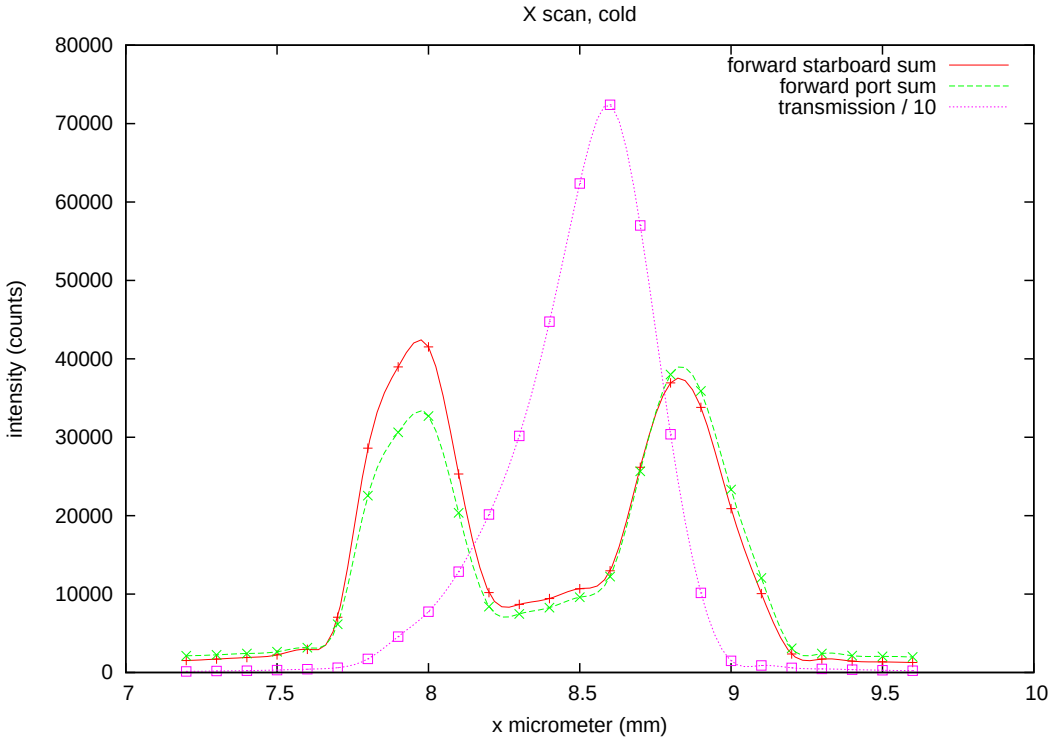

Figure 1: x-micrometer scan, cell cold.

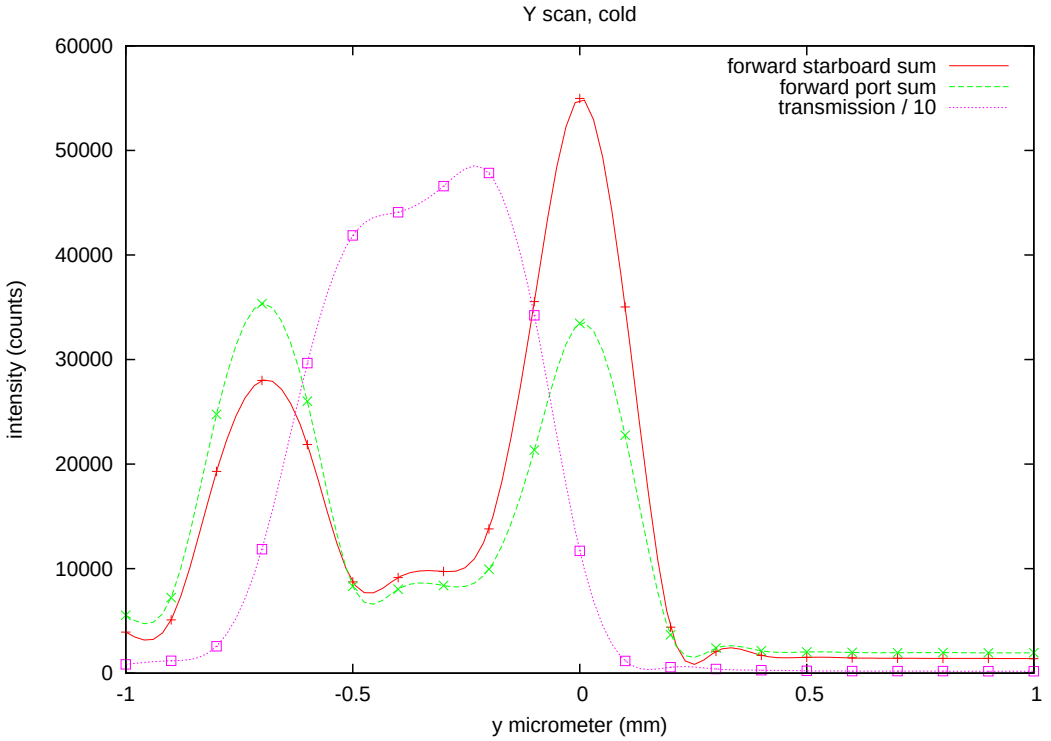

Figure 2: y-micrometer scan, cell cold.

5 Mirrors

Shortly after this trip, the mirrors were removed to be realuminized at 2009 July 29 20:55. They were replaced on 2009 July 31 and the process resulted in an increase in counts of around 20%.

6 Fires

At the end of 2009 August, the observatory was under threat from fire. The whole mountain was evacuated when the fire spread from 5000 acres to over 20,000 acres in one day. Thanks to the heroic work of many hundreds of people, it looks like the observatory is in good shape to survive the incident. Currently, three residents of the mountain and all of the operational staff of the various research programs are unable to return. We do not know when the routine observing programs will recommence or how badly the smoke has damaged the newly reconditioned mirrors.

References

[1] Steven J. Hale. New computer in Mount Wilson. *BISON Technical Report Series,* Number 319, High-Resolution Optical-Spectroscopy Group, Birmingham, United Kingdom, May 2009.